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November 3, 2017 1500 EDT

HURRICANES IRMA AND MARIA MANAGEMENT REPORT

Information contained in this report reflects HQ and regional reporting from the most recently completed operational period as well as other reports provided by HQ, regional and interagency sources.

National Incident Management Objectives

Objective 1: Ensure that health and safety of the EPA responders is considered at all times.

Objective 2: Establish an incident management structure and processes employing the Incident Command System to enable effective overall management of the event with deployment of resources (staff and equipment) in a rapid, aggressive and well-coordinated manner.

Objective 3: Ensure prompt review and processing of fuel waiver requests.

Objective 4: Prepare for and provide rapid assessment of industrial facilities as requested by the State or under EPA's statutory program responsibilities for CERCLA Superfund, RMP and FRP facilities. Working with our state partners, contact industrial sources within the impacted area to determine their operational status and determine what support can be provided with the monitoring of the start-up of industrial sources.

Objective 5: Prepare for and provide rapid assessment of & technical assistance to drinking water & wastewater facilities, as requested by the State or local government. EPA will support our state partners in contacting drinking water and wastewater systems.

Objective 6: Prepare a Sustained Response Plan that outlines the resource and equipment needs for a long duration response.

Objective 7: Activate the Agency's Crisis Communication Plan to ensure effective and efficient coordination of all incident communications.

Objective 8: Encourage a collaborative federalism approach, where national, state and local governments interact cooperatively and collectively to solve common problems.

Objective 9: Begin Agency internal and external coordination under the National Disaster Recovery Framework regarding Recovery Support Functions in which EPA is likely to be involved.

Executive Summary

The schedule for Region 2 reports is every Tuesday and Friday. This information is current as of November 3rd.

Region 2

- Power remains out for about 63% of the residents of PR and 74%, 94%, and 96% for residents of St. Thomas, St. Croix and St. John. The U.S. Virgin Islands (USVI) anticipates restoration of power to 90% of clients by the late December 2017. PR Governor Rossello has set a goal for December, but it is not certain this schedule can be met.
- In PR, about 18% of the population is still not receiving drinking water through the utility system. Comparable data for the USVI is not available, but the population is reportedly being provided with adequate supplies of drinking water.
- In PR, about 21.6% of the sewage treatment plants are still not operational because of damage to the plants themselves, damage to the trunk lines that bring the sewage to the plants, and/or damage to or lack of electric power at pump stations. Numerous raw sewage discharges enter waterways upstream of drinking water intakes. EPA, Centers for Disease Control and Prevention (CDC) and PR Department of Health (DOH) have advised residents not to bathe in surface waters. In the USVI, damage to sewage systems was less severe, but plants do not have primary power, and lack sufficient generators or generator fuel.
- The Guajataca Dam remains in a compromised state with a Flash Flood Warning in effect November 3rd. Dam failure flood impacts are possible for Isabela and Quebradillas municipalities.
- Senator Murkowski will visit the USVI on November 5th. The only request for the potential visit is to meet with ESF 12 (Energy) staff.
- Regional Administrator Pete Lopez testified on November 2nd at a hearing before the House Transportation and Infrastructure Committee concerning hurricane response. Region 2 coordinated closely with EPA Headquarters in preparation for his appearance.
- Since October 9th, the EPA Emergency and Rapid Response Services (ERRS) contractor has been attempting to transport (by barge) necessary equipment to support the debris mission assignments (MAs), using a FEMA transport mechanism. The barge departed Charleston, SC on October 31st. EPA's ERRS contractor did have another barge leave from New Jersey on October 26th and another scheduled to leave on November 4th.

Region 4 reports only on Tuesdays. This information is current as of October 31st.

Region 4

- To date, EPA Region 4 has recovered 65 vessels in the Marathon Key area and transported them to Florida Fish and Wildlife Commission (FWC) staging areas. EPA estimates that 83 vessels remain to be addressed within EPA's area of responsibility (AOR). Currently, EPA vessel recovery operations are limited to private canals in Sector Key West. Operations in the remainder of the State are USCG-lead.
- Landfill Technical Specialists from the Resource Conservation and Restoration Division (RCRD) have performed 244 site visits to date.
- EPA participated in a briefing on Unified Command operations to a congressional delegation led by House Majority Leader Kevin McCarthy on Saturday October 28th. The briefing was held at the USCG Sector Key West Station.

Regional Mission Assignments and Funding

EPA Region	Mission Assignment Number	Funding Amount	Description of Assignment
Region 2	4339DR-PR-EPA-04	\$6,000,000	To deploy personnel to coordinate and execute all necessary assessments, evaluations, sampling and analysis services/support and other necessary actions associated with ensuring the safety and quality of DW and WW systems, in support of PRASA, Puerto Rico Department of Health (PRDOH).
	4339DR-PR-EPA-03	\$10,000,000	Removal, cleanup and disposal of oil and hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in PR.
	4335DR-VI-EPA-02	\$1,008,000	To perform assessment of oil and hazardous materials releases, contaminated debris and other environmental events in USVI.
	4335DR-VI-EPA-04	\$10,000,000	Conduct oil and hazardous materials field operations, including cleanup and disposal of hazardous materials and oil, and response to orphaned containers in order to mitigate actual and potential threats to public health and safety.
	4335DR-VI-EPA-06	\$2,000,000	EPA provides support preparing for site-specific platforms for situational awareness; environmental data management; operational deployment plans; documentation of assessment activities and results; resource and financial tracking, accountability and cost documentation.
	4336DR-PR-EPA-02	\$1,008,000	To perform assessment and reconnaissance of oil and hazardous materials release, contaminated debris and storm impacted infrastructure which may pose a threat to federal responders, as well as, environmental harm in PR.
	4339DR-PR-EPA-01	\$303,000	EPA to FEMA NRCC or PR JFO/EOC
	4340DR-VI-EPA-01	\$130,000	EPA to FEMA NRCC or USVI JFO/EOC
	4340DR-VI-EPA-04	\$2,100,000	EPA to RRCC, JFO, EPA REOC, State EOC and other coordination venues to support FEMA response operations in the USVI.
Region 4	4337DR-FL-EPA-08	\$10,000,000	Provide oil and hazardous material field response in support of FEMA response operations providing specialized expertise, conducting damage assessment of oil/hazmat waste impact evaluating hazards; and/or response, removal, or disposal of actual and potential oil discharges, and releases of hazardous substances, pollutants and contaminants and remove pollutants from vessels in or upon navigable waters and adjoining shorelines through November 30 th with a state cost share of 10%.
	4337DR-FL-EPA-09	\$675,000	Provide funding for EPA Landfill Specialty Teams through November 30 th with a state cost share of 10%.
Total Active MAs	\$43,224,000		

Total Number of Regional Personnel Involved in Response (as reported on by Region 2 on November 3rd and Region 4 on October 31st)

Type	R2 Personnel	R4 Personnel	Total Regional Personnel
EPA*	176	25	201
Contractors	119	49	168
Totals	295	74	369

**These numbers include CEPD personnel*

Force Laydown for USVI* and PR (as reported by Region 2 on November 3rd)

Region 2 is entering resource orders into the WebEOC Personnel Resource Log (PRL).

Type	Personnel USVI	Personnel PR	Total Deployment
EPA*	23	79	102
Contractors	48	50	98
Totals	71	129	200

*These numbers include CEPD personnel

Region 2 Significant Activities

- EPA ERRS contractors in Yabucoa, PR responded to a report of leaking transformers and recovered oil from the downed transformers, and addressed released oil and contaminated soil. The incident was referred to the Puerto Rico Electric Power Authority (PREPA) for follow up.
- EPA's Critical Incident Stress Management (CISM) program has been activated to provide immediate Peer Support and CISM Team support to field responders and REOC personnel by sharing a CISM Communications Plan with employees to get support by telephone. A CISM Team member deployed to the Region 2 REOC on October 30th, and CISM Team members will be deploying on the ground in PR and USVI the week of November 6th.

Superfund and Oil Sites

There are 34 Superfund and oil sites (30 in PR and 4 in USVI). EPA finished post storm emergency assessments at Superfund and Oil Response Sites in PR and USVI. The sites are stable, do not have offsite impacts, and will not need emergency response work. Any remaining site issues as a result of the storm will be addressed by the Remedial Process Manager (RPM), On Scene Coordinator, or the Department of Defense (DOD) as part of the ongoing site project work. The following sites will need additional follow up before Region 2 completes its tracking efforts:

- *Barceloneta Landfill* – The access road was cleared and a more in-depth site inspection is being coordinated by the RPM and the Municipality of Barceloneta for the week of November 6th. They will be verifying the condition of groundwater wells, storm water management, and air extraction wells.
- *Culebra* – Federal Facility lead for assessment. DOD is addressing the site.
- *Dorado Groundwater Contamination* – The site is secured. The water currently being used by residents is not from the contaminated Superfund site wells. Preliminary EPA results show there are no exceedances of drinking water standards in the water that being used near the Dorado Groundwater Superfund site with results expected to be validated on December 8th.
- *Scorpio Recycling* – Follow up needed to check drums and containers on site.

SUPERFUND SITES (NPL, Removal, and Oil)						
Site	Type	Phase 1	Phase 2		Phase 3	All Phases Completed
		Post-Storm Assessment	Site Inspection Needed	Inspected	Additional Response Action	
PUERTO RICO						
Barceloneta Landfill	NPL	Inaccessible				
Culebra	Other	Federal Facility lead for this assessment				

SUPERFUND SITES (NPL, Removal, and Oil)						
Site	Type	Phase 1	Phase 2		Phase 3	All Phases Completed
		Post-Storm Assessment	Site Inspection Needed	Inspected	Additional Response Action	
Dorado Groundwater Contamination	NPL	10/12	Yes			
Scorpio Recycling Inc.	NPL	10/05	Yes			

Regulated Facilities in PR and USVI

- The Regulated Facility Team (RFT) continues to provide effective compliance assistance to Risk Management Plan (RMP), Facility Response Plans (FRP), and Spill Prevention, Control and Countermeasures (SPCC) regulated facilities.
- The original list of fixed facilities for assessments have all been addressed but there has been a recent request by the Region 2 pesticides group to assess a number of pesticide facilities. 12 pesticide facilities have been inspected in PR with one reporting damage and requiring follow up.

Facility Type	Total Field Assessments Completed to Date (as of November 3 rd)	Total # of Facilities to be Assessed
Puerto Rico		
RMP	81	56
FRP	29	23
SPCC (non-FRP)	143	0
Total	253	79
USVI		
RMP	1	1
FRP	7	6
SPCC (non-FRP)	77	0
Total	85	7

Total Region 2 Drinking Water/Wastewater (DW/WW) Assessments

Drinking Water and Wastewater Assessments (as of November 1 st)		
Assessment Types	Total Assessments on PR	Total Assessments on USVI
On-Site DW Assessments	284	861
On-Site WW Assessments	233	25

Drinking Water/Wastewater (DW/WW) Assessments in PR

- EPA staff are participating in ongoing PRASA facility assessments.
 - Out of PRASA's 51 facilities, 9 wastewater treatment plants (WWTPs) are non-operational, 6 of which are upstream of a drinking water intake.
 - 11 WWTPs are working on primary power, 6 of which are located upstream of a drinking water intake. They are:
 - Aguas Buenas (0.6 MGD) – Alternate Power Unit (APU) out of service.
 - Utuado (2.0 MGD) - Main trunk sewer collapsed, no sewage reaching the plant. A contractor is on site.
 - Ciales (1.5 MGD) – Main trunk sewer collapsed, no sewage reaching the plant. A contractor is on-site.
 - Corozal (1.25 MGD) – Collapsed trunk sewer was repaired but there are electrical problems at the facility's main control panel.
 - Las Marias (0.3 MGD) – APU out of service
 - Orocovis (0.5 MGD) – APU out of service
 - 27 of the 115 drinking water treatment plants (WTPs) operated by PRASA are out of service.
 - 88 WTPs are working on alternate power or primary power.
 - 18% of the population is without drinking water services due to the lack of primary power, lack of diesel, operational problems, or clogged intakes.
 - Assessments are complete at around 80% of PRASA's 800 sanitary pump stations. As of November 3rd, at least 146 sanitary pump stations are overflowing sewage due to lack of power, malfunctioning power generator, or pumping problems. Of these 146 pump stations, 64 are located upstream of a water supply intake.
 - PR's biggest concern is the largest pump station, Torrecillas Pump Station that pumps around 25 MGD suffered major damages due to flooding. PREPA obtained a 1 megawatt generator, and expected to energize the pump station on October 25th but it had problems with the electric panel. PRASA and U.S. Army Corps of Engineers (USACE) are on site trying to get the station energized.
- Non-PRASA drinking water facilities serve approximately 4% of the PR populations (PRASA systems service the other 96%). EPA worked with PR Department of Health, DOD, Department of Health and Human Services, and FEMA, to assess the non-PRASA drinking water systems throughout PR. Although all accessible non-PRASA DW systems have been assessed, EPA is engaged with FEMA, USACE, and PRDOH in reviewing the data from the non-PRASA system assessments to determine whether any of the systems need to be revisited for repairs.
- EPA is engaged with FEMA on the use of solar power as an alternative to generator power at non-PRASA facilities. Limited implementation is occurring through a FEMA contract for solar powered full water treatment systems. In addition, NGOs have begun work to bring in solar power to additional 50 systems, under their own donor funding. EPA and NGOs have identified 100 non-PRASA facilities that would be good candidates for solar. EPA continues to work this issue with FEMA and USACE, to fund the solar and other necessary equipment to address the needs of additional non-PRASA facilities.

Drinking Water Assessments in USVI

- The Department of Planning and Natural Resources (DPNR) established a 3-month alternative DW monitoring procedure, and will re-evaluate the need to continue at the end of the 3-month period. The monitoring procedure will shift from compliance monitoring to surveillance monitoring, with focus on bacteria and chlorine. Additionally, a boil water advisory will remain in place across the USVI. EPA continues to coordinate drinking water sampling with DPNR. DPNR continues to notify the proprietors of the affected systems to ensure proper disinfection measures are taken.
- On St. Thomas and St. John, EPA has assessed 171 (97%) of all DPNR facilities, with 74% of those facilities being operational. 94 of 126 facilities passed bacterial sampling while 27% failed this sampling. Of those that have failed, 73% of those facilities have now been brought back into compliance.

Wastewater Assessments in USVI

- One of the 8 WWTPs operated by WMA is out service (Anguila WWTP on St. Croix) due to major equipment damages.
- Three of the 25 sanitary pump stations are overflowing sewage due to lack of power. WMA is coordinating with FEMA to obtain generators for these pump stations.

PR and USVI Debris Recovery

- EPA continues to coordinate with the USACE in support of EPA's hazardous materials removal operations MA in PR. USACE is currently completing the permit process for several locations for debris collection staging areas. Until USACE's areas are identified and permitted, EPA is also coordinating with Environmental Quality Board (EQB) and individual municipalities to establish temporary hazardous materials staging areas. Many municipalities have established debris storage areas at their local landfills.
 - In PR, there are 11 approved staging areas, 23 temporary staging areas, and 13 pending according to Disposal Site Tracker on November 2nd.
 - Due to disagreement in the payment of municipal tax, Toa Baja municipal property in PR is no longer being used for hazardous waste staging.
 - Teams comprised of OSCs, CICs and RSTs visited several PR mayors to request information about possible staging areas. Access was granted in the City of Loiza for a temporary collection pad.
 - Soil sampling was conducted at the proposed Guayanilla pad but it was discovered that EPA may not have had proper access as some of the land is being leased by a quasi-government agency. That issue is being addressed.
- In USVI, USACE intends to begin burning vegetative debris on St. Croix on November 6th, on St. John on November 17th and no date yet for St. Thomas. EPA will support USACE air curtain incineration operations by providing particulate air monitoring of burn operations and begins background air monitoring activities on November 3rd in support of operations. EPA is also developing a QAPP to address the sampling of the ash from the burn to support disposal decisions. EQB has been included in these activities as their waivers are needed to allow burning. Waivers lasting greater than 90 days need EPA approval.
- EPA met with the DPNR Commissioner and her staff on October 31st to discuss several issues associated with the response, including the urgent need for HHW receiving, processing and storage areas. The Commissioner indicated that she understands the need and is in favor of expediting the approvals; in addition, she made recommendations on additional areas that have potential for EPA use.
 - EPA is waiting for DPNR to issue permits for the HHW staging locations on St. Croix and St. Thomas. It is anticipated they will be issued on November 3rd.
 - EPA conducted a detailed assessment of the Bovoni Landfill HHW and developed a plan to prepare the area for use as an HHW receiving, packaging, and staging area. A full ERRS crew was mobilized and the contamination, migrating down slope to a drainage area, was stabilized and consolidated into 55 gallon drums.
 - EPA met with the Vice President of Facilities Management of the Schneider Medical Center to investigate the possible use of the Myrah Keating Clinic parking lot on St. John as a receiving, packaging, and staging area. The VP stated that the area is being considered for use as a temporary clinic; he will investigate the status and potential debris recovery use.
 - USACE has approval to use the Adelita Cancryn School property as a debris management site and has offered space to EPA. Concurrence from the Department of Education and DPNR is being sought and approval is expected as both entities have expressed their interest in expediting approvals.
- There are 40 hazard evaluations/recoveries open on PR and 27 open on USVI with two opened on USVI on November 1st.
 - A 55-gallon steel drum was recovered from the brush behind Hometown Deli in the Tutu section of St. Thomas.

Orphan Container, Pollution Response, and Vessels in PR and USVI

- In PR and USVI, EPA contractors continued inputting the vessel assessment info into Response Manager database.

Vessel Assessments (as of November 3 rd)		
Container Type	Vessels Assessed to Date	Vessels Closed to Date
Puerto Rico	334	54
U.S. Virgin Islands	484	12

Region 4 Significant Activities

Orphan Container, Pollution Response, and Vessels in Florida

- EPA remains integrated in unified command with the USCG and the State of Florida. EPA operations, consisting of vessel recovery from private canals, continue in the Florida Keys portion of Monroe County. USCG is operational lead for vessel recovery in open waters.
- To date, EPA has collected 693 orphan containers, including drums, oil containers, and propane tanks. These items are being stored for waste stream categorization at the container staging area at the Florida Keys Marathon International Airport (MTH) and await repackaging prior to recycling or disposal at an offsite location.

Cumulative Total of Containers Collected (as of October 31 st)	
Container Type	Total Assessments on PR
Tanks > 100 gallons	48
55-gallon drums	199
Propane tanks	218
Refrigerant tanks	21
Oil and gas containers	102
Haz-labeled containers	23
Paint and coatings containers	17
Uncategorized containers	65
Total	693

Combined EPA and USCG Vessel Operations Tracking (as of October 31 st) ¹			
USCG Sector	Vessels Identified ²	Vessels Completed ³	Vessels Remaining
Jacksonville	182	57	125
Key West ⁴	1774	1118	656
Miami	289	72	217
St. Petersburg	303	266	37
Total	2548	1513	1035

1. As reported by USCG Sector Key West

2. Table lists confirmed targets. Unified Command has identified over 3,000 potential targets for assessment

3. Removed by UC or 3rd party, transferred to FWC, or determined no further action necessary

4. Includes EPA and USCG vessel operations

Landfill Specialty Team

A Landfill Specialty Team (LST) mobilized to the Florida Keys on September 27th and has performed 244 site visits, to date. During the operational period, the LST completed site visits at 78 identified Disaster Debris Management Sites (DDMSs) in the Upper Keys, including the area from Islamorada to Saddlebunch Keys. The LST utilized FDEP's Monroe County DDMS Active-Proposed List to ensure that all 67 listed sites (40 active, 27 proposed) have been assessed.

EPA Headquarters Significant Activities

- The HQ EOC is activated to Level 1 in support of EPA Regions 2 and 4 responses to Hurricanes Irma and Maria. For the Hurricanes Irma and Maria responses, the HQ EOC is coordinating on several levels with EPA Regions 2 and 4, and other Federal agencies.
- The HQ EOC is currently staffed with 6 EPA personnel and 1 contractor. The HQ EOC also continues to staff the FEMA National Response and Coordination Center's (NRCC) ESF-10 desk.
- EPA Senior Management on the Policy Coordination Committee (PCC) are holding weekly calls to discuss issues, highlights, and adherence to the management objectives.

Other EPA Activities

- EPA provided training, as requested by FEMA, to FEMA personnel on the use of the Chlorine Hach Kits on October 31st.
- EPA HQ issued a No Action Assurance (NAA) to Merck, Sharp & Dohme Corp. to enable continued use of four emergency generators located at its Las Piedras, PR facility. On October 20th, EPA extended the NAA to cover a 5th generator at the facility. On October 31st, EPA renewed the NAA and it now expires on January 31st, 2018.
- EPA is evaluating a variety of force majeure claims from on number of entities in PR and USVI on a case-by-case basis and preparing responses as appropriate.
- CID has 2 agents assigned to PR and available for security details. Additional agents will be mobilized to PR as needed.
- Community Involvement Coordinators (CICs) continue to provide assistance with developing drinking water notifications, including notification letters to affected production facilities, mold procedures, and cistern treatment guidance.
- CIC staff are working with the Region 2 REOC to collect fact sheets used in previous disaster recovery efforts to assist with collection of HHW. For the most part, the HHW segregation is occurring, but public service announcements discussing the need for segregation was recommended. The PIO staff is currently crafting PSAs.
- CIC accompanied the Drinking Water Sampling Team to two schools on St. Croix. The CIC communicated in regard to EPA sampling and the schools plans to open on November 6th.
- A video, entitled "Community Water Assessment Mission," is now posted at <https://www.dvidshub.net/video/557519/community-water-assessment-mission>.
- Region 2, Region 4, and HQ activities related to Irma and Maria response efforts are available at: www.epa.gov/hurricane-irma and www.epa.gov/hurricane-maria, respectively.